EXHIBIT 41

US005659323A

United States Patent [19]

Taylor

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[54] **SYSTEM FOR PRODUCING TIME-INDEPENDENT VIRTUAL CAMERA MOVEMENT IN MOTION PICTURES AND OTHER MEDIA**

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[21] Appl. No.: **362,653**

[22] Filed: **Dec. 21, 1994**

[51] **Int. Cl.**[6] **H04N 7/18**

[52] **U.S. Cl.** **348/159**; 352/133

[58] **Field of Search** 348/578, 579, 348/584, 38, 159, 157, 36, 42, 47, 48, 50, 64; 352/98, 121, 133, 38, 39, 44, 48, 53, 69, 70, 72, 85, 88, 242; 354/113, 110, 94, 99, 118, 174, 291, 293

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[57] **ABSTRACT**

A system for producing virtual camera motion in a motion picture medium in which an array of cameras is deployed along a preselected path with each camera focused on a common scene. Each camera is triggered simultaneously to record a still image of the common scene, and the images are transferred from the cameras in a preselected order along the path onto a sequence of frames in the motion picture medium such as motion picture film or video tape. Because each frame shows the common scene from a different viewpoint, placing the frames in sequence gives the illusion that one camera has moved around a frozen scene (i.e., virtual camera motion). In another embodiment, a two-dimensional array of video cameras is employed. Each camera synchronously captures a series of images in rapid succession over time. The resulting array of images can be combined in any order to create motion pictures having a combination of virtual camera motion and time-sequence images.

4 Claims, 10 Drawing Sheets

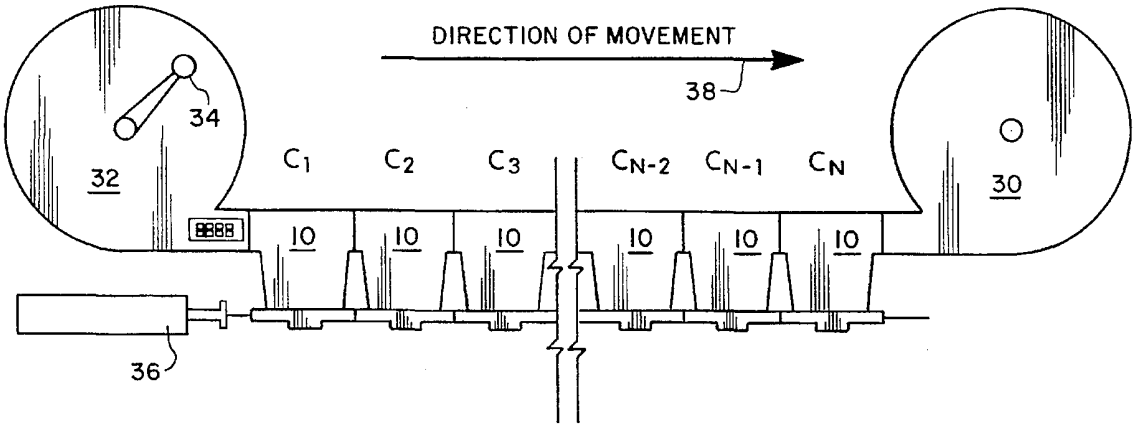

Fig. 11

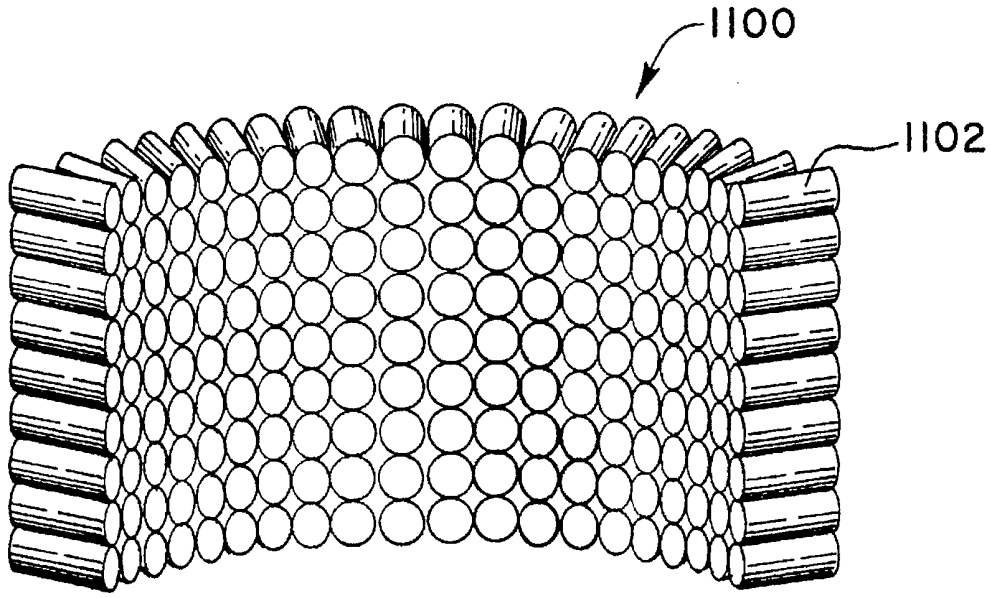

Fig. 12